

# The Space Biosciences Division

The Space Biosciences Division performs biological research and technology development necessary to enable NASA's long-term human exploration mission. Experiments lead to new technologies to improve astronaut health and health monitoring while making scientific discoveries and developing technologies that also benefit life on Earth.

To accomplish its objectives, the division:

- Studies the effects of spaceflight on living systems, conducting the research in space onboard ISS and other spacecraft, as well as research on the ground;
- Builds and operates specialized research facilities to support investigations in microgravity, partial gravity, and hypergravity;
- Engineers the life support technologies to sustain humans in space for long durations and;
- Develops the advanced biotechnologies that enable NASA's exploration of distant destinations.

## Bioengineering Branch

The Bioengineering Branch is developing next generation technologies to enable humans to live beyond Low Earth Orbit for extended periods of time. Research and technology development areas include: atmosphere revitalization and trace contaminant control, water recovery, waste management, in situ resource utilization, synthetic biology, nanotechnology, algal production of biofuels, and life support systems engineering and analysis.



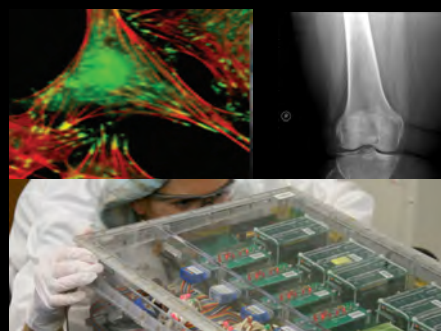
## The Flight Systems Implementation Branch

The Flight Systems Implementation Branch uses a multidisciplinary team approach that integrates science, engineering and operations to ensure mission success and compliance with customer requirements in the development and integration of bioscience payloads. Payload capabilities include design, fabrication, requirements definition, flight certification, operations and management of bioscience experiments for manned and unmanned spaceflight projects. Over 100 payloads have been developed and flown by the Flight Systems Implementation Branch.



## Biosciences Research Branch

The principal mission of the Biosciences Research Branch is to advance space exploration by achieving new scientific discoveries and technological developments in the biosciences. Relevant research and development objectives of the branch include radiation detection and biology, fundamental space biology, and the development of countermeasures to preserve human health in space. Teams of researchers are organized around scientific disciplines critical to NASA's biosciences missions.



NASA Ames Research Center

**SPACE BIOSCIENCES**



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